

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

To:

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Date of mailing  
(day/month/year)

15.09.2004

Applicant's or agent's file reference  
91B0091P12WO40

#### IMPORTANT NOTIFICATION

International application No.  
PCT/IT 02/00437

International filing date (day/month/year)  
02.07.2002

Priority date (day/month/year)  
02.07.2002

Applicant  
BORMIOLI ROCCA & FIGLIO S.P.A. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



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# PATENT COOPERATION TREATY

# PCT


## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 91B0091P12WO40	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IT 02/00437	International filing date ( <i>day/month/year</i> ) 02.07.2002	Priority date ( <i>day/month/year</i> ) 02.07.2002
International Patent Classification (IPC) or both national classification and IPC B65D35/08		
Applicant BORMIOLI ROCCA & FIGLIO S.P.A. et al.		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of 4 sheets, including this cover sheet.
<input checked="" type="checkbox"/>	This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
These annexes consist of a total of 4 sheets.	
3.	<p>This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I    <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II   <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV   <input type="checkbox"/> Lack of unity of invention</li> <li>V    <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI   <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand  04.11.2003	Date of completion of this report  15.09.2004
Name and mailing address of the International preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Ungureanu, M  Telephone No. +49 89 2399-8418



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IT 02/00437**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

2-5 as originally filed  
1, 1bis received on 09.08.2004 with letter of 05.08.2004

**Claims, Numbers**

1-6 received on 09.08.2004 with letter of 05.08.2004.

**Drawings, Sheets**

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IT 02/00437**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IT 02/00437

Section V:

- 1) Reference is made to the following document:

D2: DE-U-9113536.

The invention relates to a single-piece tube made of plastic having a central truncated body with an open lower part which is closed after filling and an upper part on which a cap is applied and with all features from the preamble of claim 1.

The feature that is claimed to be new and inventive is: that in a brief tract of the tube situated between the upper part and the remaining part of the tube there are internal thin ribs fashioned.

The problem to be solved by the present invention may therefore be regarded as producing a tube that can be easily storage and transported before filling.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The feature of the characteristic part of claim 1 is described in document D2 as providing the same advantages as in the present application. The skilled person would therefore regard it as a normal /design/ option to include this feature in the tube described as being known in the preamble of claim 1, in order to solve the problem posed.

- 2) Dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (e.g. the tube together with the cap being made in a single piece by multiple injections of plastic material into a mould- that is a well known method step in the art.)(Article 33(3) PCT).

**Description****A Plastic single-piece Tube****Technical Field**

The invention relates to a single-piece tube made of plastic. For some time plastic tubes have been used in substitution for metal tubes, especially in the technical field of tubes destined to contain fluid products such as creams or in general cosmetic products.

**Background Art**

The tubes in this field usually include a central body having a lower part which is open for the introduction of the product, and which is closed after the filling operation. The upper part of the central body has a passage for the exit of the product from the tube. These tubes are made by either welding the upper part to a drawn cylindrical tube, or by directly moulding the whole tube by injection of plastic material in a special die. The present invention relates in particular to the latter type of tube.

The finished tube is sent to producers of the product destined to fill the tube by introduction into the open lower part, whereupon the bottom of the tube is welded, the top of the tube is closed by a cap, usually screwed on by means of a thread located at the opening, which the user will then unscrew to access the product, and rescrew to seal the tube until next use.

Document DE 44 12 907 C1 discloses a plastic tube, comprising a cylindrical body having an upper part provided with a passage for exit of the product. The tube comprises a cap which can be applied on the upper part of the tube for closing the passage, which cap is connected to the upper part of the tube by a hinge element. The upper part of the tube, the cap and the hinge element are made in a single piece.

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As with all objects whose unit cost is relatively low but which are produced in large numbers, the main problem the producers face is how to limit costs and production times, by limiting the number of separate parts needed to make the object and by reducing to a minimum production waste. A further problem faced

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**Claims.**

1). A plastic single-piece tube, comprising a trunco-conical body (1a) having a lower part (1b) which is open for introduction of a product and closeable after the introduction, and an upper part (1c) provided with a passage for exit of the product; wherein the tube comprises a cap (3) which can be applied on the upper part (1c) of the tube for closing the passage, which cap (3) is connected to the upper part (1c) of the tube by a hinge element (4); at least the upper part (1c) of the tube, the cap (3) and the hinge element (4) being made in a single piece obtained by injection moulding;

2). ~~The tube of claim 1, wherein~~ the upper part (1c) and the cap (3) are being conformed in such a way that the cap (3) applied on the upper part (1c) is a continuation of the trunco-conical body (1a) of the tube; **the upper part (1c) of the tube and the cap (3) being slightly thicker than the trunco-conical body (1a) of the tube; wherein the passage afforded on the upper part (1c) of the tube comprises a cylindrical hole (2) which opens conically towards an outside and is arranged coaxially to the tube (1); the cap (3) comprising a cylindrical projection (3b), fashioned on an internal bottom of the cap (3), which is conformed and arranged in such a way as to insert sealingly in the cylindrical hole (2) when the cap (3) is applied on the upper part (1c) of the tube;**

**characterised in that in a brief tract of the tube situated between the upper part (1c) and the remaining part of the tube internal thin ribs (5) are fashioned.**

~~3).~~ 2). The tube of claim 1, wherein the whole tube, together with the cap (3), is made in a single piece by multiple injections of plastic material into a mould.

~~4).~~ 3). The tube of claim 3 2, wherein the hinge element (4) and the cap (3) are



made by injection of plastic material of different colours with respect to a colour used for a remaining part of the tube.

~~5). The tube of claim 1, wherein the upper part (1c) of the tube and the cap (3) are slightly thicker than the trunco-conical body (1a) of the tube.~~

~~6). The tube of claim 1, wherein in a brief tract of the tube situated between the upper part (1c) and the remaining part of the tube internal thin ribs (5) are fashioned.~~

~~7). 4). The tube of claim 1, wherein the hinge element (4) comprises a flat band (4) which connects an intermediate zone to the upper part (1c) of the tube to a free edge (3a) of the cap (3).~~

~~8). The tube of claim 1, wherein: the passage afforded on the upper part (1c) of the tube comprises a cylindrical hole (2) which opens conically towards an outside and is arranged coaxially to the tube (1); the cap (3) comprises a cylindrical projection (3b), fashioned on an internal bottom of the cap (3), which is conformed and arranged in such a way as to insert sealingly in the cylindrical hole (2) when the cap (3) is applied on the upper part (1c) of the tube.~~

~~9). 5). The tube of claim 1, wherein a coning angle of the trunco-conical body is comprised between 1° and 4°.~~

~~10) 6). The tube of claim 21, wherein on a lateral wall of the upper part (1c) of the tube a recess (1d) is afforded, made at a diametrically-opposite position to the hinge element (4) which, when the cap (3) is applied on the upper part (1c) of the tube, reveals a brief tract (3c) of cap (3).~~